

ABSTRACT OF THE DISCLOSURE

A controlled atmosphere cutting method and a cutting tool are provided to prevent wear on the cutting tool when cutting is performed on a material for forming an oxide protective film.

According to the invention, in a cutting method of supplying gas in an atmosphere of a machining portion to perform cutting when a work piece is cut, gas containing a high concentration of oxygen is supplied as atmospheric gas to bring the machining portion into an oxidized atmosphere, so that an oxide is formed between the cutting edge of a cutting tool 4 and a workpiece and thus a damage and wear are reduced on the tool.

The above-mentioned atmospheric gas is oxygen enriched air in which oxygen in the air is condensed, and the atmospheric gas has an oxygen concentration up to 40%, exceeding an oxygen concentration of the air.

In the body of the tool 4 such as an end mill used for implementing the above method, a gas supply hole 4b connected to the supply side of atmospheric gas is formed in the tool 4, and an exhaust hole 4c of the gas supply hole 4b is opened on the tip of the body of the tool 4, and the exhaust hole 4c is opened in a direction of blowing atmospheric gas to the cutting edge 4a on the cutting blade of the tool 4.